Applicants : Dean P. Macri, et al.
Serial No. : 09/539,343
Filed : March 31, 2000
Page : 2 of 13

Attorney's Docket No.: 10559-154001
Intel Docket No.: P7988

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of trimming a parametric surface, comprising:

prior to rendering the parametric surface:

producing a trimming texture, the trimming texture comprising a texture map

image representation of a trimming curve for the parametric surface, the trimming

curve defining trimmed and untrimmed portions, the untrimmed portion comprising

opaque pixels and the trimmed portion comprising transparent pixels; and

during rendering of the parametric surface:

obtaining a list of polygons that define the parametric surface; and

drawing the polygons to generate the parametric surface, wherein drawing

comprises applying the trimming texture to the polygons ~~parametric surface~~, the

trimming texture being applied by texture mapping the trimming texture onto the

polygons ~~parametric surface~~ to produce the trimmed and untrimmed portions; ~~and~~

~~rendering only the untrimmed portion~~.

2 to 7. (Cancelled)

8. (Currently Amended) The method of claim 1, ~~further comprising obtaining~~ <u>wherein</u>

the trimming texture <u>is produced</u> from a plurality of trimming curves for the parametric surface.

9. (Cancelled)

10. (Currently Amended) The method of claim <u>1</u> ~~9~~, <u>further</u> comprising:

obtaining a material texture for the parametric surface; and

applying the material texture to <u>the untrimmed portion</u> ~~a region of the parametric surface~~

~~corresponding to the rendered section of the trimming texture~~.

11. (Previously Presented) An article comprising a ~~computer~~ <u>machine</u>-readable medium

that stores instructions for use in trimming a parametric surface, the instructions for causing ~~the~~

~~computer~~ <u>a processing device</u> to:

    <u>prior to rendering the parametric surface:</u>

        produce a trimming texture, the trimming texture comprising a texture map

        image representation of a trimming curve for the parametric surface<u>, the trimming</u>

        <u>curve defining trimmed and untrimmed portions, the untrimmed portion comprising</u>

        <u>opaque pixels and the trimmed portion comprising transparent pixels</u>; and

    <u>during rendering of the parametric surface:</u>

        <u>obtain a list of polygons that define the parametric surface; and</u>

Applicants : Dean P. Macri, et al.
Serial No. : 09/539,343
Filed : March 31, 2000
Page : 4 of 13

Attorney's Docket No.: 10559-154001
Intel Docket No.: P7988

draw the polygons to generate the parametric surface, wherein drawing

comprises applying ~~apply~~ the trimming texture to the polygons ~~parametric surface~~,

the trimming texture being applied by texture mapping the trimming texture onto the

~~parametric surface~~ polygons to produce the trimmed and untrimmed portions~~; and~~

~~render only the untrimmed portion~~.

12 to 16. (Cancelled)

17. (Currently Amended) The article of claim 11, ~~further comprising instructions for~~

~~causing the computer to obtain~~ wherein the trimming texture is produced from a plurality of

trimming curves for the parametric surface.

18. (Cancelled)

19. (Original) The article of claim 11 ~~18~~, further comprising instructions for causing the

~~computer~~ processing device to:

obtain a material texture for the parametric surface; and

apply the material texture to the untrimmed portion ~~a region of the parametric surface~~

~~corresponding to the rendered section of the trimming texture~~.

Applicants : Dean P. Macri, et al.   Attorney's Docket No.: 10559-154001
Serial No. : 09/539,343   Intel Docket No.: P7988
Filed   : March 31, 2000
Page   : 5 of 13

20. (Currently Amended) An apparatus for use in trimming a parametric surface,

comprising:

[[a]] memory which stores ~~computer~~ executable instructions; and

a processor that executes the ~~computer~~ instructions to:

prior to rendering the parametric surface:

produce a trimming texture, the trimming texture comprising a

texture map image representation of a trimming curve for the parametric

surface, the trimming curve defining trimmed and untrimmed portions, the

untrimmed portion comprising opaque pixels and the trimmed portion

comprising transparent pixels; and

during rendering of the parametric surface:

obtain a list of polygons that define the parametric surface; and

draw the polygons to generate the parametric surface, wherein

drawing comprises applying ~~apply~~ the trimming texture based on a

trimming curve to the polygons ~~parametric surface~~, the trimming texture

being applied by texture mapping the trimming texture onto the polygons

~~parametric surface~~ to produce the trimmed and untrimmed portions; ~~and~~

~~render only the untrimmed portion~~.

21 to 25. (Cancelled)

26. (Currently Amended) The apparatus of claim 20, ~~further comprising instructions for causing the computer to obtain~~ <u>wherein</u> the trimming texture <u>is produced</u> from a plurality of trimming curves for the parametric surface.

27 to 30. (Cancelled)

31. (New) The apparatus of claim 20, wherein the processor executes instructions to:

obtain a material texture for the parametric surface; and

apply the material texture to the untrimmed portion.

32. (New) The method of claim 1, wherein the trimming curve is produced from one or more vector-valued functions.

33. (New) The method of claim 1, wherein the parametric surface is part of a three-dimensional model.

34. (New) The method of claim 1, wherein the method is performed by an alpha channel of texture blending/mapping hardware in a three-dimensional (3D) graphics processor.

Applicants: Dean P. Macri, et al.
Serial No. : 09/539,343
Filed : March 31, 2000
Page : 7 of 13

Attorney's Docket No.: 10559-154001
Intel Docket No.: P7988

35. (New) The method of claim 1, wherein the parametric surface comprises control points that dictate a shape of the parametric surface, the trimming texture being applied to the shape of the parametric surface dictated by the control points.

36. (New) The method of claim 1, wherein the polygons have texture coordinates that are used in defining a texture of the polygons.

37. (New) The article of claim 11, wherein the trimming curve is produced from one or more vector-valued functions.

38. (New) The article of claim 11, wherein the parametric surface is part of a three-dimensional model.

39. (New) The article of claim 11, wherein the instructions are executable by an alpha channel of texture blending/mapping hardware in a three-dimensional (3D) graphics processor.

40. (New) The article of claim 11, wherein the parametric surface comprises control points that dictate a shape of the parametric surface, the trimming texture being applied to the shape of the parametric surface dictated by the control points.

Applicants : Dean P. Macri, et al.
Serial No. : 09/539,343
Filed : March 31, 2000
Page : 8 of 13

Attorney's Docket No.: 10559-154001
Intel Docket No.: P7988

41. (New) The article of claim 20, wherein the polygons have texture coordinates that are used in defining a texture of the polygons.

42. (New) The apparatus of claim 20, wherein the trimming curve is produced from one or more vector-valued functions.

43. (New) The apparatus of claim 20, wherein the parametric surface is part of a three-dimensional model.

44. (New) The apparatus of claim 20, wherein the processor comprises a three-dimensional (3D) graphics processor having texture blending/mapping hardware and an alpha channel.

45. (New) The apparatus of claim 20, wherein the parametric surface comprises control points that dictate a shape of the parametric surface, the trimming texture being applied to the shape of the parametric surface dictated by the control points.

46. (New) The apparatus of claim 20, wherein the polygons have texture coordinates that are used in defining a texture of the polygons.